

HIGH THROUGHPUT PROCESS FOR REACTIVE EXTRUSION OF EPOXY RESIN

Abstract

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- The present invention provides low cost resins (e.g., advanced epoxy resins), processes for making these resins, and coatings made with these resins. Specifically, the present invention provides high throughput extrusion processing of advanced epoxy resins using an appropriate amount of an iminium salt catalyst. Preferred 10 iminium salt catalysts are stable at room temperature in the reaction mixture (thereby enabling the pre-mixing of ingredients and the stable storage of the pre-mixed ingredients) and yet are highly efficient at the processing temperatures described herein. An example of one such advance epoxy resin is the reaction product of diglycidyl ether of bisphenol A with bisphenol A in the presence of an iminium salt 15 catalyst. Preferred processes are performed using no solvent or only negligible amounts of solvent. One preferred extrusion process utilizes an intermeshing co-rotating twin-screw extruder, however, other types of extruders may alternatively be employed.